

NEW GEOGRAPHICAL DISTRIBUTION RECORDS FOR TWENTY-EIGHT SPECIES AND SUBSPECIES OF TABANIDS IN WEST VIRGINIA (DIPTERA: TABANIDAE)^{1,2}

J.D. Hacker, L. Butler, L.L. Pechuman³

ABSTRACT: One new state record and 63 new county records for 28 species and subspecies of tabanids are listed for West Virginia. The new state record is *Leucotabanus annulatus* (Say).

One new state record and sixty-three new county records for twenty-eight species and subspecies of tabanids are listed for West Virginia.

The new state record is for *Leucotabanus annulatus* (Say). This species was previously recorded from scattered areas of Maryland, Virginia, Kentucky, Ohio and Pennsylvania. The West Virginia specimen was swept at dusk, indicating crepuscular or nocturnal behavior for *L. annulatus*. Larvae have been collected from rot holes in trees, in decaying logs and in soil beneath forest litter (Pechuman, 1973).

All specimens collected by Coffman, Hacker and Lippert are in the West Virginia Department of Agriculture collection and were determined by L.L. Pechuman. Specimens collected by Amrine, Begley, Butler, Estep, Fisher, McDonald, and Swope are held in the West Virginia University collection. These specimens were determined by L. Butler. Tabanids collected by E. Estep were retained by Estep.

For each species the information is given in the following order: Locality of collection, county, initials of collector and date of collection.

Chrysops callidus Osten Sacken. Barboursville, CABELL, JDH, June 1, 1978. Big Ugly Public Hunting Area, LINCOLN, LB, August 2, 1978. Bear Rocks Lake, OHIO, JDH, May 25, 1977. Spencer, ROANE, LB, May 22, 1978.

C. calvus Pechuman and Teskey. Route 33-2 mi. east of county line CALHOUN, LB, May 27, 1978.

C. cincticornis cincticornis Walker. McClintic Wildlife Station, MASON, JDH, June 6, 1978. Grace, HAMPSHIRE, CCC, June 20, 1978.

¹Received July 10, 1979.

²Published with approval of the Director of the W.Va. Univ. Agric. Exp. Sta. as scientific paper No. 1607.

³Respective addresses: Survey Entomologist, West Virginia Dept. of Agriculture, Plant Pest Control Div., Charleston, WV 25305; Professor of Entomology, Div. of Plant Sciences, West Virginia University, Morgantown, WV 26506; Professor of Entomology, Dept. of Entomology, Cornell University, Ithaca, NY 14853.

- C. flavidus* Wiedmann. McClintic Wildlife Station, MASON, LB, August 2, 1978.
- C. geminatus* Wiedmann. Shannondale, JEFFERSON, CCC, July 27, 1978. Cherry Run, MORGAN, CCC, July 5, 1978. Bergoo, WEBSTER, JDH, July 13, 1978. Lewis Wetzel Public Hunting Area, WETZEL, LB, July 3, 1978.
- C. impunctus* Krober. Bergoo, WEBSTER, JDH, July 13, 1978.
- C. macquarti* Philip. Shannondale, JEFFERSON, CCC, June 28, 1978.
- C. moechus* Osten Sacken. Fork Creek Public Hunting Area, BOONE, LB, June 14, 1978. Big Ugly Public Hunting Area, LINCOLN, LB, August 2, 1978.
- C. niger* Macquart. Stumptown, GILMER, LB, May 27, 1978. Cherry Run, MORGAN, CCC, June 27, 1978.
- C. univittatus* Macquart. Jacksons Mill, LEWIS, JDH, July 24, 1978.
- **Leucotabanus annulatus* (Say). Big Ugly Public Hunting Area, LINCOLN, LB, August 2, 1978.
- Hybomitra difficilis* (Wiedemann) Junior, BARBOUR, LB, June 2, 1978. Kanawha Run - Sutton Lake, BRAXTON, LB, May 28, 1978. Greenland, GRANT, CCC, July 7, 1978. Cherry Run, MORGAN, CCC, June 6, 1978. Spencer - 2 mi. west, ROANE, LB, May 27, 1978. Dolly Sods, TUCKER, JWA, May 29, 1978.
- H. lasiophthalma* (Macquart) Route 33 - 2 mi. east of county line, CALHOUN, LB, May 27, 1978. Greenland, GRANT, CCC, June 7, 1978. Cherry Run, MORGAN, CCC, May 31, 1978. North Bend State Park, RITCHIE, JDH, June 23, 1978. Spencer - 2 mi west, ROANE, LB, May 27, 1978.
- H. sodalis* (Williston). Greenland, GRANT, CCC, one male, July 13, 1978.
- Tabanus americanus* Forster. Arden, BERKELEY, KM, September 5, 1978. Bluefield, MERCER, JB, August 13, 1978.
- T. atratus* Fabricius. Arthurdale, PRESTON, RS, August 26, 1978.
- T. calens* Linnaeus. Kanawha Run - Sutton Lake, BRAXTON, LB, August 10, 1978. Big Ugly Public Hunting Area, LINCOLN, LB, August 2, 1978.
- T. fulvulus* Wiedmann. Cherry Run, MORGAN, CCC, July 17, 1978.
- T. molestus molestus* (Say) St. Albans, KANAWHA, JDH, June 15, 1978. WEBSTER, DF, Summer 1978.
- T. lineola* Fabricius. North Bend State Park, RITCHIE, JDH, June 23, 1978.
- T. pallidescens* Philip. St. Albans, KANAWHA, JDH, June 1, 1978. North Bend State Park, RITCHIE, JDH, June 23, 1978.
- T. pumilis* Macquart. Arthurdale, PRESTON, PS, June 12, 1978.
- T. quinquevittatus* Wiedemann. Kanawha Run - Sutton Lake, BRAXTON, LB, August 16, 1989. Dallas, MARSHALL, GL, August 6, 1976. Cherry Run, MORGAN, CCC, July 5, 1978. North Bend State Park, RITCHIE, JDH, June 23, 1978.
- T. sackeni* Fairchild. Kanawha Run - Sutton Lake, BRAXTON, LB, August 16, 1978. Greenland, GRANT, CCC, July 27, 1978. Greenbrier State Forest, GREENBRIER, LB, August 27, 1978. Chester, HANCOCK, JDH, August 15, 1978. Shannondale, JEFFERSON, CCC, August 3, 1978. Big Ugly Public Hunting Area, LINCOLN,

- LB, August 2, 1978. Chief Cornstalk Public Hunting Area, MASON, LB, August 2, 1978. WEBSTER, DF, August 8, 1978. Proctor District, WETZEL, EE, July 25, 1978.
- T. sparus milleri* Whitney. Greenland, GRANT, CCC, July 13, 1978. Cherry Run, MORGAN, CCC, June 13, 1978. North Bend State Park, RITCHIE, JDH, June 23, 1978.
- T. subsimilis subsimilis* Bellardi. Arden, BERKLEY, KM, July 29, 1978.
- T. sulcifrons* Macquart. Proctor District, WETZEL, EE, August 2, 1978.
- T. superjumentarius* Whitney. North Bend State Park, RITCHIE, JDH, June 23, 1978.
- *New State Record.

Abbreviations for collectors:

JWA, James W. Amrine; JB, JW Begley; LB, Linda Butler; CCC, Charles C. Coffman; EE, E. Estep; DF, D. Fisher; JDH, J. Douglas Hacker; GL, G. Lippert; KM, Kenneth McDonald; LLP, LL Pechuman; PS, Phyllis Swope; RS, Ron Swope.

REFERENCES

- Drees, Bastiaan Meijer. 1976. Tabanidae of West Virginia (Diptera: Tabanidae). M.S. Thesis. West Virginia University, Morgantown, West Virginia. 233 p.
- Hacker, J. Douglas, L. Butler, and L.L. Pechuman. 1979. New geographical distribution records for forty-four species and subspecies of tabanids in West Virginia. Cooperative Plant Pest Report, 4: 220-224.
- Pechuman, L.L. 1973. Horse flies and deer flies of Virginia (Diptera: Tabanidae). The insects of Virginia: Part 6. Research Division Bulletin 81, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.

BOOKS RECEIVED AND BRIEFLY NOTED

SEXUAL SELECTION AND REPRODUCTIVE COMPETITION IN INSECTS.

Murray S. and Nancy A. Blum, eds. Academic Press. 1979. 463 pp. \$23.00
Papers presented at a symposium on reproductive behavior at the Behavior section of the 15th International Congress of Entomology, Washington, DC, 1976. Many of the papers presented have been expanded and updated and additional papers added so that the final product represents a synthesis of biological concepts that emphasizes intrasexual reproductive competition as a driving force in sexual selection.

CHEMICAL ECOLOGY: ODOUR COMMUNICATION IN ANIMALS.

F.J. Ritter, ed. Elsevier/North-Holland Biomedical Press. 1979. 427 pp. \$54.75.
Proceedings of the Advanced Research Institute on Chemical Ecology: Odour Communication in Animals, held in The Netherlands, 1978. Thirty three papers dealing with four major topics: Present-day knowledge of fundamental aspects of olfaction; Odor communication in mammals; communication by multicomponent odors in insects; and commercial production and application of pheromones and related compounds in pest control.